Abstract

This study explores the effects of stress and housing conditions on the healing of cutaneous wounds and its relationship with circulating levels of corticosterone. Specifically, we set out to examine the effect of combined physical (restraint stress and ultrasound) and psychological (predator scent) stressors on the cutaneous wound healing of female mice that had been housed either in groups (with social support; n = 16) or individually (without social support; n = 16). In contrast with other studies, the model of multiple ethological mild stressors utilized in this study significantly increased the levels of corticosterone, but failed to dramatically alter the healing of skin wounds. However, the results of this study provide evidence of the importance of housing conditions, suggesting that positive social interactions in females accelerate the rate of wound healing, and reduce levels of anxiety and circulating corticosterone. The level of anxiety, as well as the basal levels of corticosterone, proved to be valid predictors of the healing rates during different stages of cutaneous wound healing.